

REMARKS

The Office Action of September 8, 2004 refers to Priority.

- 1 Receipt is acknowledged of papers submitted under 35 U.S. C. 119(a)-(d), which papers have been placed of record in the file.

Applicants appreciate the acknowledgement of the priority documents and relies thereon in the claim for priority.

The Office Action refers to the Information Disclosure Statement.

- 2 The information disclosure statement has been received and considered.

Applicants appreciate the consideration given to the information disclosure statement.

Drawings

3. The drawings stand objected to because the writing description of the "x" and "y" dimensions should be removed.. Corrected drawing sheets in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

A replacement page with Figs. 7 and 8 is being submitted to obviate the drawing objections.

The Office Action refers to Claim Rejections - 35 USC § 112.

5. Claims 1-17 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1 the limitation of "the overflow throttles have in each case a flow resistance different relative to the flow through direction..." is not clearly understood, as phrased. Also "the critical Reynolds number" lacks antecedent basis. Second to the last line "the pressure difference" lacks antecedent basis. Where does this come from?

Claim 1 is now amended to obviate the rejection.

Claim 5 contains the same 112 problems.

Claim 5 is being amended to over come the rejections.

Regarding claim 9, as discussed above in regard to claim 1, it is unclear which direction constitutes a high flow resistance direction and a low flow resistance direction since it appears

fluid flow experiences low and high resistances, at some point, in either direction through the passage as the piston translates.

The throttle bore holes according to the present invention are constructed such that the flow resistance depends on the flow through direction, since the inner diameters of the bore holes are not symmetrical relative to a middle plane through the bore hole,.

The Office Action refers to Claim Rejections - 35 USC § 103.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

It is believed that the subject matter of all claims was commonly owned.

8. Claims 1-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3824932 ('932) in view of Yamaoka and the British patent '780.

The rejection is respectfully traversed.

Regarding claims 1-17 DE '932 discloses a gas spring damper having a similar structure to that of applicant's, as readily apparent from figure 2. Note what appear to be throttles at 66,68. however this is not entirely clear since a translation of this document is not yet available.

The reference German Patent DE 38 24 932 C1 refers in column 3, line 5 to "Überströmdrosseln (66,68)" overflow throttles 66, 68, wich are indicated only schematically. Nothing is said in the reference about the construction of the overflow throttles 66, 68 and there is no suggestion in the German reference that the overflow throttles 66, 68 might bear bore holes.

The British patent '780 shows such "throttles" in the several figures 2,3,5,11. Note the varying shapes provided.

It is not clear that Figs. 2, 3, 5, and 11 of the British reference show throttles. The British reference apparently does not refer to "throttles".

Applicants submit that where the British reference does not refer to throttles, a person of ordinary skill in the art would not employ the configurations of the British reference as "throttles".

Yamaoka discloses in column 7 lines 27-36 that "the difference between the fluid pressures before and behind each of the first and second constant orifices ... is decreased and the flow velocity of the working fluid passing through each of the orifices is decreased gradually so that the Reynolds number of the fluid passing through the respective orifices is decreased". This reduces fluid noise.

Applicants urge that the reference Yamaoka is interested in laminar and quiet flow.

The Office Action continues that it can therefore be seen it is known to vary the geometry of piston fluid passages (i.e. shape, cross section, size etc) to vary the fluid flow through the piston dependent upon the level of damping forces desired and/or to prevent unwanted noise

While it may be known to vary the geometry of piston fluid passages, there is no teaching in the Yamaoka reference "to dimension the flow resistance of each of the overflow throttles (15) such in at least one of the passing through directions that a critical Reynolds number for the

transition from the laminar into the turbulent kind of flow is disposed within a pressure difference over the overflow throttle (15), wherein the pressure difference is predeterminable from the possible piston speeds”.

The condition imposed on the throttles of the applicants in claim 1 relative to a transition through a critical Reynolds number is nowhere suggested in Yamaoka.

Because it is notoriously well known in the art to vary the geometry of piston fluid passages (i.e. shape, cross section, size etc) to adjust the damping properties of an absorber or spring to desired criteria one having ordinary skill in the art at the time of the invention would have found it obvious to have modified the passages 66,68 of DE '932 as taught by '780 and Yamaoka for this reason.

Applicants respectfully disagree. None of the references teaches the particular condition of applicants throttles going from laminar flow to turbulent flow and vice versa. Where all three references agree not to do what the applicants specify in their claims, that then such invention is clearly unobvious over such references.

Applicant's limitations in the remaining claims directed to the specifics of the shape of the piston fluid passages are simply an obvious alternative design equivalent of the piston fluid passages in DE '932, as modified above simply dependent upon the damping characteristics of the spring desired.


Applicants urge that none of the references teaches or suggests the construction specifications presented in the subclaims of the present application.

Reconsideration of all outstanding rejections is respectfully requested.

All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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